

Appl. No.: 09/471,659  
Group Art Unit: 2634

### CONCLUSION

It is submitted that all the claims now in the application are allowable. Applicants respectfully request reconsideration of the application and claims and its early allowance. If the Examiner believes that the prosecution of the application would be facilitated by a telephonic interview, Applicants invite the Examiner to contact the undersigned at the number given below.

No fees are believed to be due in connection with this Response. If Applicant is in error the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account 19-0597.

Respectfully submitted,



Pehr B. Jansson  
Registration No. 35,759

Date: April 25, 2003

**Enclosures:**

1. <http://www.everythingdsl.com/types/index.shtml> (4 pages)
2. <http://www.micronet.info/Products/ADSL/SP3302.asp> (3 pages)
3. Facsimile Transmittal Sheet (1 page)
4. Transmittal Form (1 page)
5. Certificate of Transmission by Facsimile (1 page)
6. Amendment Transmittal Letter in duplicate (2 pages)

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Thursday, April 24, 2003

verizon

# EVERYTHING DSL

SOLUTIONS FOR EVERYTHING IN DSL

## Types of DSL

WHAT IS? HOW FAST? COSTS AVAILABILITY GLOSSARY  
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### ADSL

The variation called ADSL (Asymmetric Digital Subscriber Line) is the form of DSL that will become most familiar to home and small business users. ADSL is called "asymmetric" because most of its two-way or duplex bandwidth is devoted to the downstream direction, sending data to the user. Only a small portion of bandwidth is available for upstream or user-interaction messages. However, most Internet and especially graphics- or multi-media intensive Web data need lots of downstream bandwidth, but user requests and responses are small and require little upstream bandwidth. Using ADSL, up to 6.1 megabits per second of data can be sent downstream and up to 640 Kbps upstream. The high downstream bandwidth means that your telephone line will be able to bring motion video, audio, and 3-D images to your computer or hooked-in TV set. In addition, a small portion of the downstream bandwidth can be devoted to voice rather data, and you can hold phone conversations without requiring a separate line.

Unlike a similar service over your cable TV line, using ADSL, you won't be competing for bandwidth with neighbors in your area. In many cases, your existing telephone lines will work with ADSL. In some areas, they may need upgrading.

### CDSL

CDSL (Consumer DSL) is a trademarked version of DSL that is somewhat slower than ADSL (1 Mbps downstream, probably less upstream) but has the advantage that a "splitter" does not need to be installed at the user's end. Rockwell, which owns the technology and makes a chipset for it, believes that phone companies should be able to deliver it in the \$40-45 a month price range. CDSL uses its own carrier technology rather than DMT or CAP ADSL technology.

### G.Lite or DSL Lite

G.Lite (also known as DSL Lite, splitterless ADSL, and Universal ADSL) is essentially a slower ADSL that doesn't require splitting of the line at the user end but manages to split it for the user remotely at the telephone company. This saves the cost of what the phone companies call "the truck roll." G.Lite, officially ITU-T standard G-992.2, provides a data rate from 1.544 Mbps to 6 Mbps downstream and from 128 Kbps to 384 Kbps upstream. G.Lite is expected to become the most widely installed form of DSL.

### HDSL

The earliest variation of DSL to be widely used has been HDSL (High bit-rate DSL) which is used for wideband digital transmission within a corporate site and between the telephone company and a customer. The main characteristic of HDSL is that it is symmetrical: an equal amount of bandwidth is available in both directions. For this reason, the maximum data rate is lower than for ADSL. HDSL can carry as much on a single wire

For Business xDSL  
Request a Broadband Q

bandwidth  
clock base



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of twisted-pair as can be carried on a T1 line in North America or an E1 line in Europe (2,320 Kbps).

### IDSL

IDSL (ISDN DSL) is somewhat of a misnomer since it's really closer to ISDN data rates and service at 128 Kbps than to the much higher rates of ADSL.

### RADSL

RADSL (Rate-Adaptive DSL) is an ADSL technology from Westell in which software is able to determine the rate at which signals can be transmitted on a given customer phone line and adjust the delivery rate accordingly. Westell's FlexCap2 system uses RADSL to deliver from 640 Kbps to 2.2 Mbps downstream and from 272 Kbps to 1.088 Mbps upstream over an existing line.

### SDSL

SDSL (Single-line DSL) is apparently the same thing as HDSL with a single line, carrying 1.544 Mbps (U.S. and Canada) or 2.048 Mbps (Europe) each direction on a duplex line.

### UDSL

UDSL (Unidirectional DSL) is a proposal from a European company. It's a unidirectional version of HDSL.

### VDSL

VDSL (Very high data rate DSL) is a developing technology that promises much higher data rates over relatively short distances (between 51 and 55 Mbps over lines up to 1,000 feet or 300 meters in length). It's envisioned that VDSL may emerge somewhat after ADSL is widely deployed and co-exist with it. The transmission technology (CAP, DMT, or other) and its effectiveness in some environments is not yet determined. A number of standards organizations are working on it.

### x2/DSL

x2/DSL is a planned modem from 3Com and US Robotics that supports 56 Kbps modem communication but is upgradeable through new software installation to ADSL when it becomes available in the user's area. 3Com calls it "the last modem you will ever need."

### A DSL Summary Table

DSL Type	Description	Data Rate Downstream; Upstream	Distance Limit	Application
IDSL	ISDN Digital Subscriber Line	128 Kbps	18,000 feet on 24 gauge wire	Similar to the ISDN BRI service but data only (no voice on the same line)

<b>CDSL</b>	Consumer DSL from Rockwell	1 Mbps downstream; less upstream	18,000 feet on 24 gauge wire	Splitterless home and small business service; similar to DSL Lite
<b>DSL Lite (same as G.Lite)</b>	"Splitterless" DSL without the "truck roll"	From 1.544 Mbps to 6 Mbps downstream, depending on the subscribed service	18,000 feet on 24 gauge wire	The standard ADSL; sacrifices speed for not having to install a splitter at the user's home or business
<b>G.Lite (same as DSL Lite)</b>	"Splitterless" DSL without the "truck roll"	From 1.544 Mbps to 6 Mbps, depending on the subscribed service	18,000 feet on 24 gauge wire	The standard ADSL; sacrifices speed for not having to install a splitter at the user's home or business
<b>HDSL</b>	High bit-rate Digital Subscriber Line	1.544 Mbps duplex on two twisted-pair lines; 2.048 Mbps duplex on three twisted-pair lines	12,000 feet on 24 gauge wire	T1/E1 service between server and phone company or within a company; WAN, LAN, server access
<b>SDSL</b>	Single-line DSL	1.544 Mbps duplex (U.S. and Canada); 2.048 Mbps (Europe) on a single duplex line downstream and upstream	12,000 feet on 24 gauge wire	Same as for HDSL but requiring only one line of twisted-pair
<b>ADSL</b>	Asymmetric Digital Subscriber Line	1.544 to 6.1 Mbps downstream; 16 to 640 Kbps upstream	1.544 Mbps at 18,000 feet; 2.048 Mbps at 16,000 feet; 6.312 Mbps at 12,000 feet; 8.448	Used for Internet and Web access, motion video, video on demand, remote LAN access

			Mbps at 9,000 feet	
<b>RADSL</b>	Rate-Adaptive DSL from Westell	Adapted to the line, 640 Kbps to 2.2 Mbps downstream; 272 Kbps to 1.088 Mbps upstream	Not provided	Similar to ADSL
<b>UDSL</b>	Unidirectional DSL proposed by a company in Europe	Not known	Not known	Similar to HDSL
<b>VDSL</b>	Very high Digital Subscriber Line	12.9 to 52.8 Mbps downstream; 1.5 to 2.3 Mbps upstream; 1.6 Mbps to 2.3 Mbps downstream	4,500 feet at 12.96 Mbps; 3,000 feet at 25.82 Mbps; 1,000 feet at 51.84 Mbps	ATM networks; Fiber to the Neighborhood

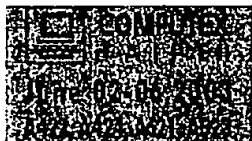
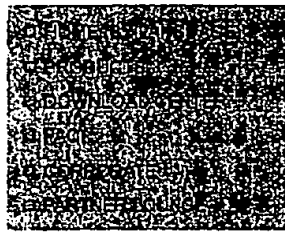
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**Micronet**

i@April 24, 2003



SP3302

**USB ADSL Modem***The high speed communication over existed phone li  
your stand along PC*

- ▶ [Picture](#)
- ▶ [Catalog](#)
- ▶ [Manual](#)
- ▶ [Driver](#)

[| Introduction](#) | [Key Feature](#) | [Application](#) | [Specification](#) | [Ordering Information](#) |**▶ INTRODUCTION**

Micronet SP3302 ADSL Modem USB is designed for easy consumer installation through a Windows com USB port. The USB modem is easy to install and configure and no new wiring is required. When running it offers downstream transmission speeds up to 8 Mbps - over one hundred times faster than an analog f modem. As a result, a file that takes an hour to download from the Internet with an analog 56k modem ta only seconds with our ADSL modem.

**Support Full Rate Communication**

SP3302 Broadband ADSL Modem Card provides users the high-speed broad band access to the Internet ensures not only maximum performance, but also significantly simpler handling, a smaller footprint and k power consumption than conventional devices. Depending on the services offered by the service provide SP3302 support connection downstream speeds up to 8 Mbps and upstream up to 832 Kbps.

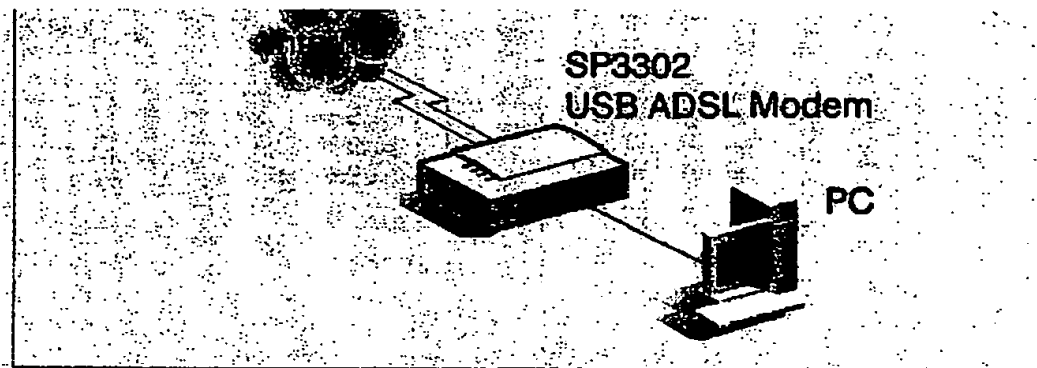
**Software upgradeable**

The ADSL Modem USB is software upgradeable to support service and performance enhancements so 1 features and updates may be added by simply loading a new version of the device driver onto your PC.

[| Introduction](#) | [Key Feature](#) | [Application](#) | [Specification](#) | [Ordering Information](#) |**▶ KEY FEATURE**

- Support ANSI T1.413 Issue 2, ITU-T G.992-1 (G.dmt), G992.2 (G.lite)
- Support maximum 8Mbps downstream and 832Kbps upstream
- Support Discrete MultiTone (DMT) modulation
- Support full ATM protocol stacks implementation over ADSL
- Low power consumption
- Support three device drivers: Microsoft NDIS 4.0 WAN Miniport, NDIS 4.0 LAN Miniport or NDIS 5.0 AT Miniport
- USB 1.1 Hot Plug & Play Interface, easy installation

[| Introduction](#) | [Key Feature](#) | [Application](#) | [Specification](#) | [Ordering Information](#) |**▶ APPLICATION**<http://www.micronet.info/Products/ADSL/SP3302.asp>**BEST AVAILABLE COPY** 4/24/2003



| [Introduction](#) | [Key Feature](#) | [Application](#) | [Specification](#) | [Ordering Information](#) |

### ► SPECIFICATION

Model	SP3302/A	SP3302/B	SP3302/U
Type	Annex A	Annex B	U-R2
Standard	ANSI T1.413 Issue 2, ITU G.992.1 (G.dmt), ITU G.992.2 (G.lite), CAP (T1 TR		
Data Rate	Up to 8 Mbps downstream Up to 832 Kbps upstream		
Interface	USB 1.1		
Modulation	Discrete Multi Tone modulation		
Maximum Distance	18,000 feet		
Protocols	Full ATM protocol stacks implementation over ADSL, such as ATM TC layer, layer with traffic shaping, AAL layer (AAL5 & SAR), PPP over ATM and Class over ATM		
Driver Support	Microsoft NDIS 4.0 WAN Miniport, NDIS 4.0 LAN Miniport, NDIS 5.0 ATM Miniport		
System Requirements	Pentium 100MHz CPU or faster 32MB system memory or more 10MB free space on your hard drive 256-color VGA or higher resolution CD-ROM drive One available USB port and one USB cable (supplied) Telephone cable with RJ-11 connectors Microsoft Windows 98, 98SE, ME, XP, or 2000 operating system disks Device driver software CD-ROM (supplied) Available ADSL service or connection to DSLAM or ADSL service emulator		
Temperature	Operating Temperature: 0 degree~70degree with airflow Storage Temperature: -10 degree~85degree		
Humidity	up to 90% (no condensing)		
Compliance Certification	CE approved		
Dimension	105mm(L) x 95mm(W) x 22mm(H)		
1. The product specifications are subject to change without prior notice. 2. Requires ADSL service from your local telephone company or broadband service provider. 3. Actual speeds will vary depending on services offered by your local broadband service provider and other factors.			

| [Introduction](#) | [Key Feature](#) | [Application](#) | [Specification](#) | [Ordering Information](#) |

### ► ORDERING INFORMATION

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<http://www.micronet.info/Products/ADSL/SP3302.asp>

4/24/2003

SP3302/A : BroadLink ADSL Modem, USB Interface, Annex A

SP3302/B : BroadLink ADSL Modem, USB Interface, Annex B

SP3302/U : BroadLink ADSL Modem, USB Interface, U-R2

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